DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF OREGON
REPRESENTED BY THE STATE ENGINEER

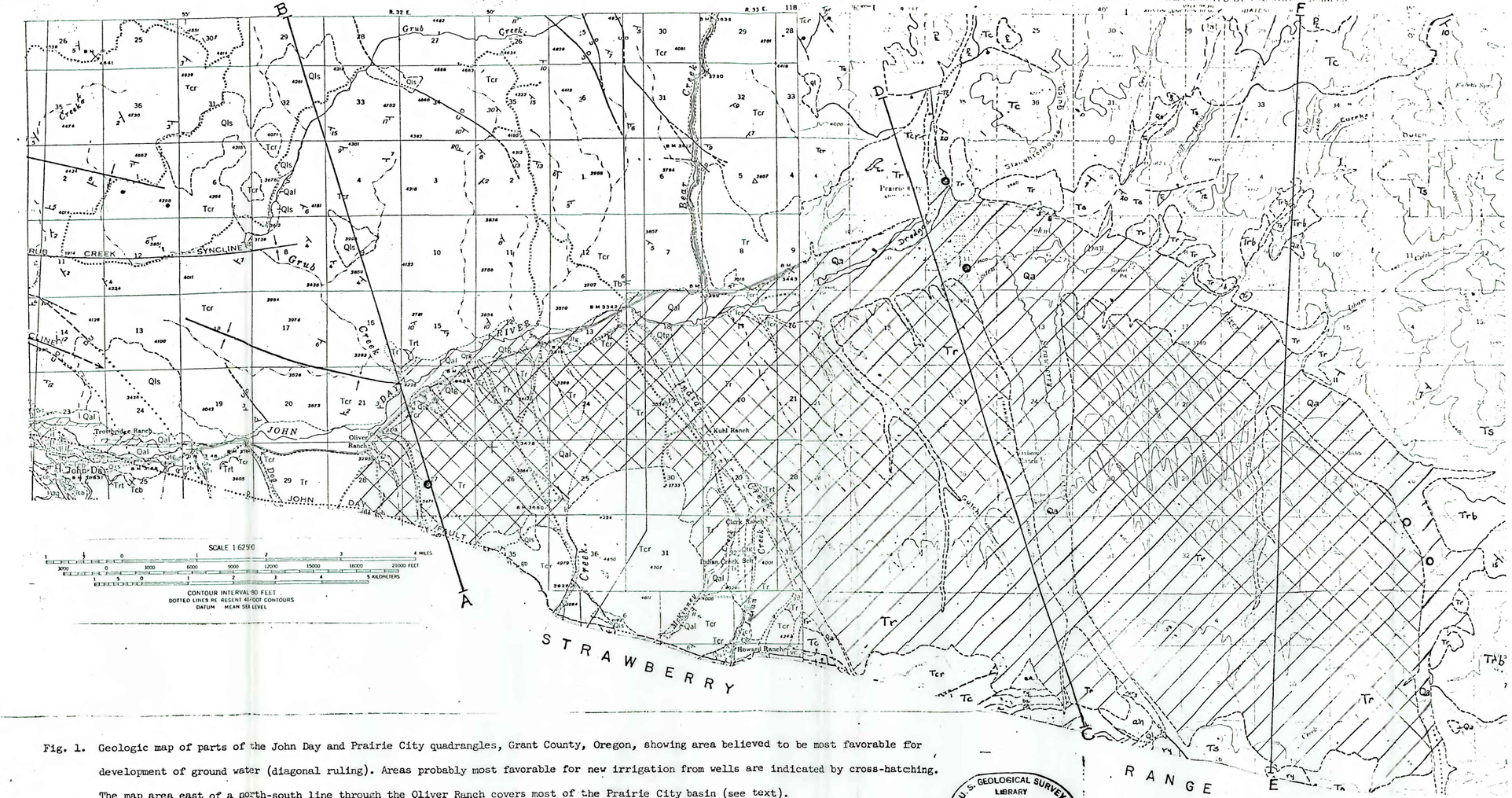

Fig. 1. Geologic map of parts of the John Day and Prairie City quadrangles, Grant County, Oregon, showing area believed to be most favorable for development of ground water (diagonal ruling). Areas probably most favorable for new irrigation from wells are indicated by cross-hatching. The map area east of a north-south line through the Oliver Ranch covers most of the Prairie City basin (see text).

EXPLANATION

(Applies only to rocks north of the Strawberry Range)

Qa

Alluvium

Mainly valley fill consisting of silt, sand, and gravel. Source of water in shallow wells only.

Trb

Rattlesnake Formation

Poorly sorted bouldery to clayey deposits forming extensive pediments south of the John Day River and irregular smaller benches north of it

Trb, deposits containing numerous boulders two feet or more in size, mostly higher than the Rattlesnake Formation proper

Trt, Rhyolite tuff member. Exposed in vicinity of John Day and just east of Grub Creek.

This formation is the most promising source of groundwater in the John Day River valley east of Canyon Creek.

Tcr, Ts

Columbia River Group-Strawberry Volcanics

Flows of basaltic to rhyolitic composition interbedded with mudflow breccia, bedded volcanic ash, and some conglomerate.

Source of water in all three John Day City wells, and may contain highly productive zones elsewhere

Tc

Clarno Formation

Mostly andesite flows and breccias north and east of Prairie City.

Not promising as source of groundwater because of impermeability in this area

Contact

Dashed where approximately located

Fault

Dashed where approximately located, dotted where concealed. Bar and ball on downthrown side

25
Strike and dip of beds or lava flows

Well

Approximately located.